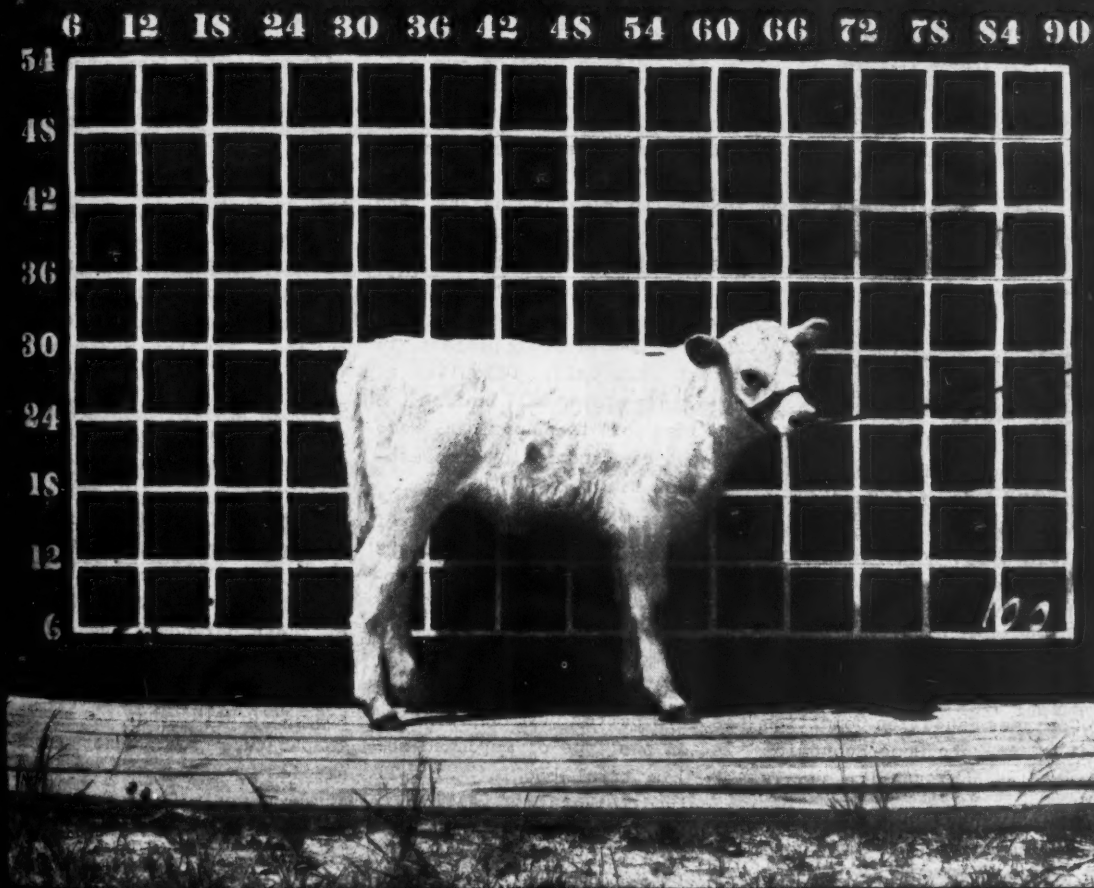


# Consumer Guide

VOL. III, No. 18  
OCT. 5, 1936



Better Plants and Animals

## Consumers' Queries and Comments

"The science of the quality of life as it passes from generation to generation is in many respects the greatest and youngest of all the sciences. ---

I trust that the day will come when humanity will take as great an interest in the creation of superior forms of life as it has taken in past years in the perfection of superior forms of machinery. In the long run superior life forms may prove to have a greater profit for mankind than machinery.\*

Henry A. Wallace  
Secretary of Agriculture

**CC** NEWS of increasing activity in consumer education keeps crowding in... A forthcoming issue of "Building America", graphic and vivid publication of the Society for Curriculum Study, 425 West 123d Street, New York City, will be titled "We Consumers" and devoted exclusively to consumer problems. Many schools and consumer groups use the bulletins of this society for study and class discussion... The Consumer Education Committee of the Wisconsin Home Economics Association continues to supply

\*From the section of the 1936 Yearbook of Agriculture devoted to "Better Plants and Animals", excerpts from which begin on page 3 of this issue.

consumer groups with a "Circulating Package Library on Consumer Buying by Grades and Standards", first developed last year... September's issue of "The Clearing House", an educational magazine, announces that State-wide curriculum revisions are being carried on this year in 32 States. Consumer organizations which like to see consumer problem study courses made a part of their schools' curricula should get in touch with superintendents of schools... So great has been the demand for "Sources of Information on Consumer Education and Organization", publication of the Consumers' Counsel, AAA, Washington, D. C., (described in our July 27, 1936, issue) that a new edition must be run off. Unique guide to Federal agencies servicing consumers, this bulletin is being used as a reference book by schools, clubs, adult education classes, unions, and other groups all over the country... Phi Upsilon Omicron, home economists' honorary sorority, has made consumer education a special 3-year study project, to start this fall. Direction of the study course will be from the offices of the American Home Economics Association in Washington, D. C.

ALERT merchants, aware of the growing demand from consumers for better aids in selecting merchandise on a quality basis, are setting the pace for others... Boston's Better Business Bureau has announced its intention to issue a better buymanship booklet on one type of merchandise. If this trial booklet is well received, others will follow... An advertising man also in Boston writes: "I have definitely thrown in with the consumer move-

ment and am going to specialize 'in merchandise that speaks and tells the truth'." He has already prepared a circular for a carpet manufacturing firm which gives buyers facts and figures on the construction and durability of various grades of carpets — the kind of data consumers need for wise buying. To prove to manufacturers the widespread demand for informative labeling, he is circulating questionnaires among consumers asking them which they prefer: facts or sales talks... "May the best one win", hopes a large distributing house and to help has published a practical "Consumers' Shopping Guide" which gives quality marks of three different grades of a wide variety of fabrics commonly purchased for household and personal use. Facts become the sales talk in this Guide.

**CC** "SPINACH tastes so much better right out of the garden", writes a reader from a middle-sized Iowa town, "that I wondered if the food value might be different too. Are there more vitamins in spinach just picked than spinach which has been kept long enough to make the average trip through commercial channels?"

SOME VITAMINS do disappear when greenery stands. The main loss is of Vitamin C, but some Vitamin B is lost too. How much of their potency stays and how much goes depends on how long the spinach is held and probably on how it is held, what its storage temperature was. Not enough studies have been done to justify any more definite statement than that, other things being equal, the longer the storage the greater the vitamin loss.

# Better Plants and Animals

The 1936 Yearbook of Agriculture turns a corner. With its usual columns of valuable but inanimate statistics printed in a separate volume, this Yearbook presents the wonder tale of man's progress in creating growing things more closely to meet human needs.

Most of the 1,200 pages are the result of a cooperative survey of plant and animal improvement carried on by workers in the Department of Agriculture and the State Agricultural Experiment Stations under direction of a Genetics Committee appointed in 1933 by the Secretary of Agriculture.

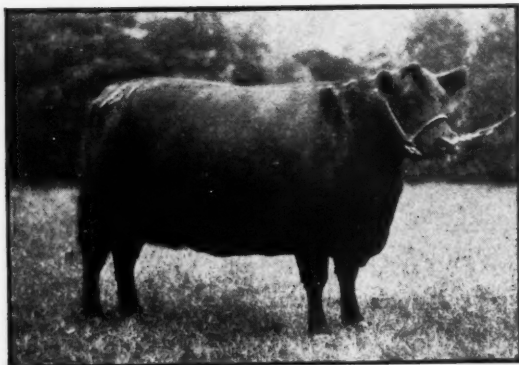
Because agricultural science serves the consumer's interest so clearly in this field, we publish here some excerpts from the introductory passages. Copies of the Yearbook are for sale by the Superintendent of Documents, Washington, D. C., for \$1.25.

**"S**INCE life began, nature has been "breeding" plants and animals. She crossed them. She inbred them. She subjected them to mysterious forces powerful enough to bring about changes in the germ stuff that determines their characteristics. She put them through hardships that only the fit could survive. Out of these processes, carried on over millions of years, myriads of forms of living things developed.



Read in these two pictures the story of how Government scientists are helping agriculture win the battle against wheat's mortal enemy—rust.

"FOR a long time after man came on the scene, he took what nature gave him. But being observant and determined, he eventually began to gather seeds from the fields and plant them for his own use, and to capture young animals and tame them. This was more handy than hunting and it gave him a more certain food supply. As he gained experience, he became dissatisfied with what he got from nature and began making improvements. He picked out the plants that seemed to yield the most and to be the more palatable and increased them, gradually discarding the others.



The problem: To produce an animal for the Gulf Coast area, one that could "endure the intense heat of summer, resist insect pests and diseases, grow rapidly, and produce a desirable beef carcass on grass." No such animal seemed to exist in the United States. One solution:



Workers at the Department of Agriculture field station in Alabama combined the climate-adaptability of Brahman cattle from India (above, right) with the beefy conformation of the Aberdeen-Angus (above, left) and got animals that met all the specifications (left).

He shrewdly selected the best animals for mating whenever he could. It was a slow, crude business, but there was plenty of time. Long before the dawn of history, these generations of picking and choosing resulted in most of the major types of agricultural plants and domestic animals we have today.

"DURING this time the men who knew most about the processes of nature, or thought they did, were the magicians. Eventually the scientists appeared. They were the natural heirs, the seventh sons of the seventh sons, of the magicians, and they put the latter out of business because their ideas turned out to be more practical and effective. These scientists were natural-born meddlers; nothing was safe from their curiosity; they were driven by an experimental itch that would not let them leave anything alone. Some of the biologists among them saw possibilities for further improvement in plants and animals, and slowly and painstakingly they worked out more exact methods to bring it about.

"AS TIME is measured in the age of the earth or of man, the scientists who deal with heredity came on the scene only a few minutes ago, but already they have managed to do a great deal. In the case of plants, especially, they have developed out of the old stock a large number of new forms with better quality, more productiveness, and greater resistance to disease and adversity. But they would be the first to say that they have hardly scratched the surface, and looking into the future, they can see far richer possibilities as their science pushes forward with its exploration and experimenting.

"MODERN SCIENCE . . . enables agriculture to stride instead of having to creep. Even at that, it has to keep striding fast. Diseases that were not serious before, devastate modern close-packed plant communities as the Black Plague devastated crowded cities, and new varieties of plants have to be bred to resist each one. But then the disease organism may become adapted to the new plant, and it is necessary to develop still another one. In the case of animals,





The variety of wheat that founded the vast hard red spring wheat industry, ancestor to the famous "Marquis", came to the United States originally from Poland by way of Germany, Scotland, and Canada.

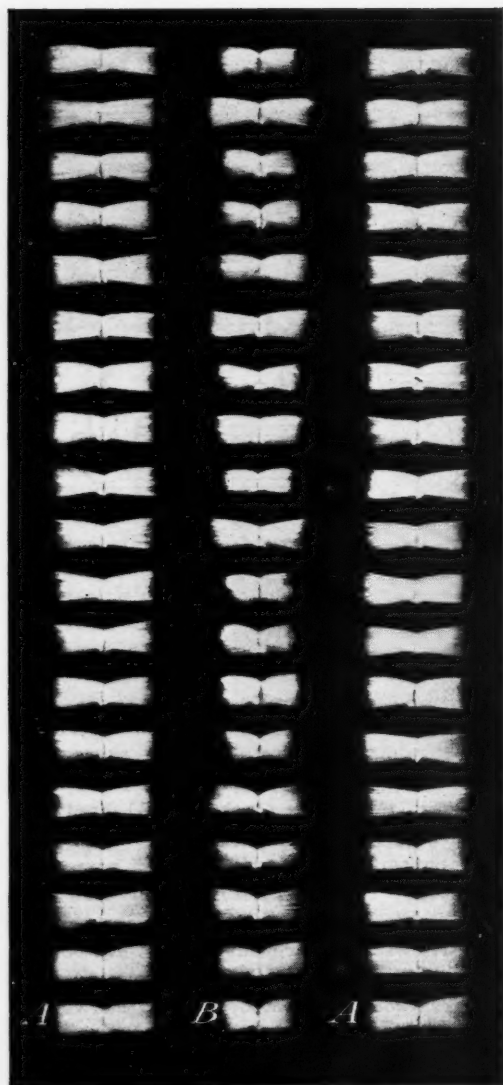
scientists do not yet agree on the extent of hereditary disease resistance; but the same necessity exists as with plants, and there is increasing pressure to find out what are the limits of inheritance in this direction. In addition, the pressure of competition, new technological developments, and changes in ways of living make it imperative to keep on the job increasing efficiency and improving quality.

"THERE is scarcely time to congratulate ourselves on the achievement of today because we have to hustle to produce something better for tomorrow. The task of the breeder and the geneticist has become never-ending.

"LOOKING back over this third century, four things stand out strikingly:

"SCIENTIFIC breeding with both plants and animals has become a powerful and an indispensable tool for making agriculture more efficient and more flexible in meeting new demands and supplying the needs of men for food and raw materials. It has become a major branch of the science of life, taking its place beside modern chemistry and medicine as a means of conquering some of the chief difficulties and dangers that beset man, and giving him greater abundance.

"BUT it has hardly begun to do what it should do in this direction. The average hen in the flocks of the United States produces 80 eggs a year. There are flocks of well-bred birds that produce over 200 eggs per bird per year. Average butterfat production is 165 pounds per cow per year; the herds surveyed for this Yearbook average 450 pounds per cow per year. But of 4,000 dairy sires, representing what are considered to be the best herds in the country, surveyed for the Yearbook, only 300, or less than 10 percent, are listed as excellent from the standpoint of transmitting high production. Obviously the production of both eggs and dairy products in the United States could be greatly increased with no more hens or cows than farmers now have to feed and care for. In other words, costs of production could be greatly reduced by a wider application of scientific breeding. The basic significance of this that neither egg consumption nor milk consumption is what it should be, especially in the lower income groups who make up so large a percentage of the population, because not enough people can afford enough eggs or enough milk for the best nutrition. Fundamental economic considerations, including the distribution of income, are involved here, but in any case scientific breeding should be a dynamic factor in producing the necessities of life at less cost, and putting them within the reach of more people.



Pure seed of a select stock produced the uniform cotton fibers in the outside rows, while mixed "gin-run" stock produced the center row of combed fibers.

... "THERE is a close interdependence between practical breeding work and the theoretical science of genetics. The practical breeder can accomplish a great deal by dint of long experience, close observation, and a genuine feeling for his material; but the knowledge of how inheritance works, built up by theoretical research in genetics, enables him to go farther and faster, with fewer mistakes.

... "LIKE every other science, the modern science of heredity is international, not

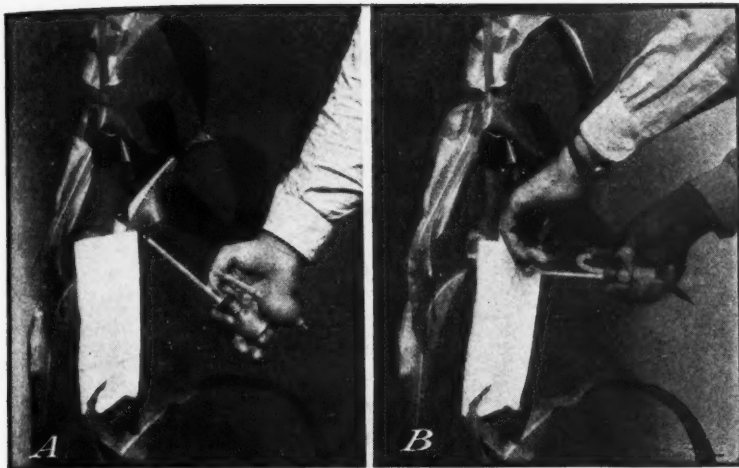
only in its theoretical findings, but in its practical applications in agriculture. Some of the most valuable of our present-day varieties of plants in the United States, for example, trace their parentage back to far and obscure places. Scientists search the earth for breeding material that will be useful in improving the products grown in their own country. They exchange this material, and the results of their own work, freely between one country and another.

... "THE FIELD of breeding and genetics has become so large, it is so dependent on progress in basic research, and it requires such continuous effort on projects running over many years or even more than one generation, that it obviously becomes a function of governmental institutions capable of devoting the necessary money and time to the work and doing it with a sufficiently disinterested attitude. This is especially true because the results are for the benefit of all people rather than any one group. In the future, the well-being of a nation will depend more and more on the vigor and adequacy with which it carries on this task of improving the forms of life on which it depends to feed, clothe, and house its people, and also on the vigor and adequacy with which it makes the improvements available to all its citizens.

... "GENETICS is not less vital to the welfare of the human race than the science of nutrition, though probably the public in general knows a good deal less about it, since genes have received less publicity than vitamins. No field is more fascinating, and as far as practical breeding is concerned, those who work carefully can achieve interesting and worth-while results even without scientific training.... Farmers and others who perhaps never saw the inside of a laboratory have developed valuable plants and animals that have been widely used.

... "WHETHER he is a professional or an amateur, the enthusiastic breeder of plants or animals is likely to have certain peculiarities, and there are certain requirements for success.

"HE MUST, above all, have a genuine love of his material and become so thoroughly identified with it that he knows its minute characteristics and can readily distinguish small differences in appearance, quality, and behavior that would be unnoticed by the casual observer.



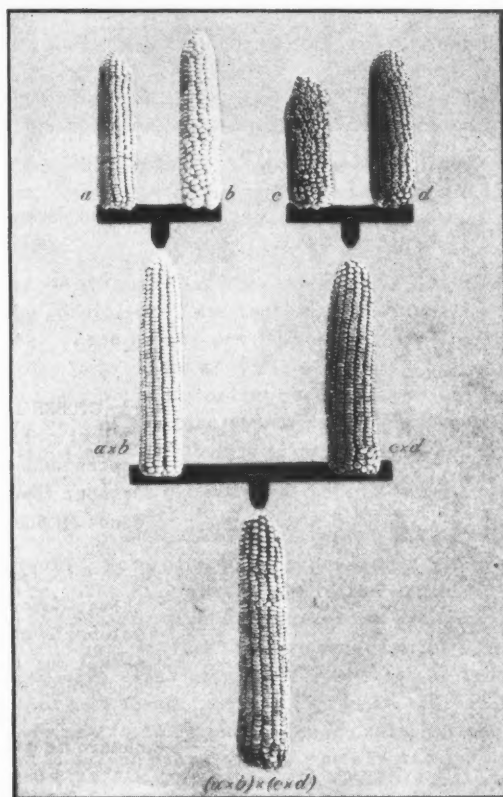
(Left) Using a pollen gun to fertilize the carefully protected corn silk with pollen from plants chosen for crossing.

(Below) The family tree of one corn variety, showing how it was produced by combining the good qualities of less satisfactory forebears.

If he is working with wheat, for example, he must be able to go over a nursery containing many thousands of superior plants and select those that have traits for which he is searching; he may find only a single strain different from the rest, like a nugget of gold in a waste of rocks. Again, he must be able to classify many plants of each progeny in accordance with their characters, and do it rapidly and surely. This requires not only a trained eye but also something that almost becomes instinctive, like the feeling of an artist for his raw material, based on painfully acquired knowledge that eventually passes into the subconscious. This kind of observation and judgment, of course, is supplemented by scientific tests and precise measurements, but the feeling for the material must come first.

"AGAIN, the breeder who works with plants must be able to carry on many delicate manipulations with rapidity and precision. Some of his work is of the order of that done by a jeweler making filigrees with fine wires, or peering into a watch and putting together little wheels and springs under a magnifying glass. This demands not only a nice touch but a kind of patience that not everybody possesses.

"THE ANIMAL breeder, for the most part, does not have to do this kind of work. Nevertheless he, too, must have a genuine love for his material and the ability to select from thousands of available animals the ones whose germ plasm will produce the traits desired. Patience is a prime requisite with him also, since, like the plant breeder, he undertakes



projects that may not be completed for many years, and many of which will turn out wrong and have to be abandoned or started all over again. But in addition, the animal breeder needs to have boldness mixed with his patience. The timid soul has no place in this work."



OCTOBER 1936						
Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

On  
Foods hitting their high spots of supply are likely to be in their season of low price for high quality

**O**CTOBER is the high month of the average year for arrival in the city market of sweetpotatoes, cauliflower, and parsnips; of apples and grapes. More lamb and beef are usually butchered in October than in any other month. Generally speaking, consumers can count on the season of highest supply to bring them lowest prices.

APPLE SUPPLIES last year totaled 167 million bushels. Of those, Government economists estimate that 50 million bushels were October's share of the crop. Of the 37 main apple varieties on the market during the year, 18 of them are in season in October.

THIS YEAR three factors have combined to inflict drastic damage to the apple crop. Fewer trees were left to bear after last winter's severe weather, and this year late spring frost and drought have taken their further toll. Present estimates place the crop more than a third below last year's. So devastatingly has this cut into the year's total fruit supply that even promises of the biggest citrus crop on record do not make up the difference.

APPLES take their uncontested spot on many family menus, good year and bad. This special fidelity to apples may go back to the day when they received some rather over-enthusiastic recommendations



# Autumn Market Lists

for their medicinal value. Even now that consumers know the apple's contribution to the mineral and vitamin supply is considerably short of spectacular, the fact would still stand that nothing can take their place as an attractive staple to keep on hand for every fruit need from the apple on the teacher's desk in the morning to the apple on the midnight bedside table.

SHORT SUPPLIES put a premium on careful buying. First tip to consumers is to know which varieties of apples are suited for which purpose—whether they are dessert apples, or cooking apples or an all-around type suitable for both. Variety names are stamped on the boxes and barrels and bushel baskets in which the apples are shipped. Many consumers with steady apple requirements buy in these quantities in order to make sure not only of the variety they are getting but also of the quality, since Government grades also show on these containers. Without grade marks to guide you, the general attributes of the apple you want are firmness and a color that is good in the variety you are buying. Varieties that have been in season some months are likelier than less-stored apples to have the most common defect that hits apples, the brown spots on the skin of apples called "scald", caused by the gases the apples give off when in storage or en route. If you find your apples wrapped in oiled paper or packed in shredded oiled paper you are safer for the oil absorbs the gases. (See "What Every Apple Consumer Should Know" in the CONSUMERS' GUIDE for September 16, 1935.)

GRAPES come under two general heads in our markets: The native Eastern type and the European kinds grown in the West. Both have high sugar content and are correspondingly well up on the list of fruits for fuel calories, but the western types are sweetest. Grapes rank as "fair" for Vitamins A, B, and C, without special showing on the mineral table. First mark of your good bunch of table grapes is a fresh look. The individual



October markets bring the average year's top supplies of cauliflower, sweet-potatoes, parsnips, apples, and grapes to city markets. Experts advise consumers to make their choices of fresh produce in person.

grapes are plump and they stick to their stems when the careful consumer tests them by a gentle shaking. Some grapes are ripe while they are still green in color but most white and green grapes are in their prime for eating when they are just turning amber. The stem end is a tell-tale spot when grapes are going bad, and other signs are mold, wetness, and sometimes stained containers.

SWEETPOTATOES divide up into two classes, according to color, moisture and sweetness. The kind that comes to the table dry and mealy usually have a yellowish tan skin and very light yellow flesh. The sweet moist-fleshed kind have skins varying from whitish to reddish color and flesh from light greenish-yellow to a reddish or orange tint. These sweetpotatoes are often called "yams" though the experts deny them the title. Of either variety the good sweet-potato should be "smooth, well-shaped, firm, and of bright appearance." Odd shape means more waste, and so do growth cracks. Look out for decay, because one small spot can make a whole potato uneatable. One kind of decay shows as soft wet spots. Another kind is a dry, shriveled, discolored, and sunken spot, usually at the end of the

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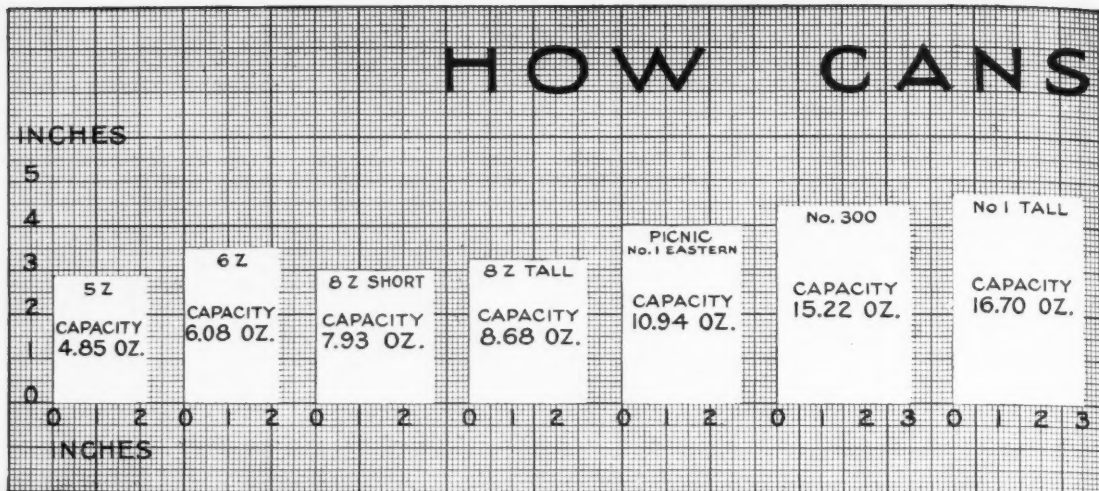


Chart shows the exact dimensions of some of the common cans on the grocer's shelves. Capacity listed is the distilled water which the can would hold if filled to its very top.

Can you spot a No. 303 can on your grocer's shelf, tell it from a No. 2? Do you know whether a No. 300 holds  $\frac{1}{2}$  ounce more than a No. 1 Tall, or vice versa? Present status of can standardization is outlined here

**P**ACKING fruits and vegetables in cans of 200 different sizes used to be common practice among American canners. A canner who wanted some distinctive size or shape found, if his innovation became a good seller, that it was only a question of weeks before imitators would come rolling in with similar stock. Then the smart canner turned to and invented still newer sizes and shapes. That's what led to the 200.

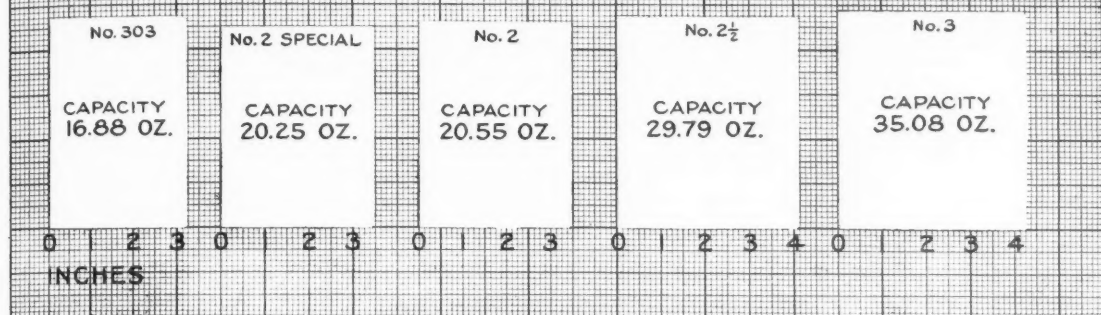
**EXPENSE** to the canner, confusion to the consumer—these were the costs of the race for individual and distinctive cans. Each different sized can required additional costly machinery to manufacture. Each different can demanded a special size label. Great variety in can sizes meant also that shipping carton and box sizes had to be multiplied many times over. Packers and distributors all the way along the line felt the effects of this great waste and increased operating cost. Consumers, confronted in the grocery by a bewildering number of different-sized cans, were at a loss to tell how much food they were getting for their

money. So many of the cans looked exactly alike but weren't. Sometimes one can contained several ounces more or less than another very similar, often apparently identical, can.

**SIMPLIFICATION** of containers, with a voice in the simplification proceedings for all interested parties, to many manufacturers has seemed to be a very necessary move. Looking over into Canada, the canning trade saw the effects of simplification in actual practice. In our neighbor country fruits and vegetables come packed in cans of only 11 different sizes. Canadian packers realize the economic benefits of mass production and Canadian consumers are protected from the losses that come from buying one size of can thinking it is another size. Regulations governing the sizes of containers for canned fruits and vegetables have been on the Canadian statute books since 1929.

**HERE** in America the canning trade some years ago invited the Division of Simplified Practice of the National Bureau of Standards to cooperate in developing a simplified practice recommendation. (Details on the work of this Division appeared in the CONSUMERS' GUIDE for July 13, 1936.) A cooperative survey among 2,800 canners throughout the country brought forth a wealth of data. Leading producers of

# COMPARE



Actual weight of contents of cans of the same technical size varies with the kind of food and the degree of fullness. The label gives the weight of each can's contents.

cans supplied still further information. After considering the data, the canning trade association's own committee on simplification recommended the adoption of only 27 sizes of cans for fruits and vegetables to replace the 200.

CONFERENCES of canners and canned food distributors considered the recommendation for approval. On September 1, 1934, the program calling for only 27 sizes was made effective. At present writing, hundreds of producers, packers, distributors, and users of cans for fruits and vegetables have signified in writing their acceptance of the simplified practice recommendation. The Federal Government, as the country's largest purchaser, now buys its canned goods in accordance with the simplified line. Many other purchasers, large and small, buy the same way, although the program is entirely voluntary.

RESPONSIBILITY for enforcing the simplification recommendations rests entirely with the canning trade itself. A standing committee representative of food packers and distributors attempts to keep the industry in line. But people who agree voluntarily to abide by simplified practice are in no way legally bound to do so. As a matter of fact, a number of can sizes not among the 27 have already cropped up in American grocery stores. New trade conferences may soon be under way to consider this problem.

NO LAWS exist which restrict the fancies of can manufacturers, provided that when sold in interstate commerce filled cans bear labels which clearly show the net weight of their contents. Laws have been passed regulating the sizes and, in some instances, the shapes of baskets, hampers, and barrels. As a result there is today such clear differentiation between basket sizes that no consumer would mistake one size of basket for a larger one. (Full explanation appears in the CONSUMERS' GUIDE for February 23, 1934.)

BACK now to cans, the question of can sizes from the consumer's point of view divides itself into two parts. Total number of can sizes used should not be so large as to confuse the careful consumer in his efforts to find out what quantity of food he gets for his money. Next, consumers want each can size to be so distinct from every other can size as to lock out all possibility of mistaking one for another. When the trade decided to reduce the number of sizes to 27, it took a long step toward meeting consumer needs on the first phase of the problem. But when it made so small a figure as 1/32-inch the minimum allowable difference between can dimensions, it stopped short on the second phase.

INCLUDED AMONG the 27 recommended can sizes, for example, are some that are still very near together in size and in capacity. Overall dimensions of the No. 2 can, and the "No. 2 special" can are exactly alike, except that the No. 2 can



One of these cans—the left one—is 1/16 inch shorter than the other. Both have the same diameter. The "No. 2 special" on the left holds 3/10 ounce less than No. 2 on the right. Both generally sell at the same price. In the course of a year, consumers who use a considerable number of the "No. 2 special" cans may get several pounds of food less than they would get from the "No. 2."

is 1/16 inch taller than the other, and consequently has a larger capacity. Side by side the cans look so much like identical twins that reading the label for net weight information becomes compulsory for the consumer who wants to pay only for what he gets.

**FAMILY RELATIONSHIP** exists also among the No. 1½ cans. Dimensions of the regular No. 1½ can are 4-1/16 by 2-6/16 inches. The "No. 1½ special" has the same diameter but is only 2-5/16 inches high, and contains about one-half ounce less. These cans, frequently used for sliced pineapple, are generally sold at identical prices.

**SOME CANNERS** have considered eliminating the 2 "special" cans from the list, but to date the suggestion has not been carried out. Cannerymen in favor of retaining the "special" cans say that they are selling too well to be drawn out of circulation. If and when the trade



When cans have approximately the same proportions, it is sometimes hard for a shopper to recognize at a glance which is the larger. On the left is a No. 303 can of peas, costing 18 cents. On the right is a No. 2 can which cost only 15 cents. It's only a 20 percent difference in price per can, but the food in No. 303 actually cost 50 percent more per pound.

agrees to reduce the list, however, machinery exists for smoothing the way. Many of the simplified practice recommendations of the Bureau of Standards undergo frequent revisions in accordance with changing practice and needs.

**COMMONEST** can sizes in everyday use in the United States are No. 1 Tall, No. 1 Eastern, No. 2, No. 2½, and No. 303. Institutional buyers often use No. 10, a can 6-3/16 by 7 inches, containing almost 7 pounds. But here, too, there is room for a word of caution, because a "No. 10 special" is now on the market, only 6-15/16 inches tall. It takes measuring with a ruler to tell these cans apart.

**CONSUMERS' INTEREST** in the question of can sizes is more than academic, especially where mistaken identity plays its subtle part. In Canada this villain is foiled because no two cans among their 11 are confusingly close in dimensions or in capacity, and the "special" cans, along with No. 303, have been

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Reading the label is still the best way to make sure you are getting the quantity you think you're paying for. By comparing net weight statements on different cans of the same food, and buying accordingly, shoppers can stretch their food dollars.



# Quality

## in Fruits and Vegetables

People in the business of buying fresh fruits and vegetables have found a common language in U.S. Government grades



**H**OUSEWIVES today carry home more fruits and vegetables than ever before. If you can compare the food purchased on your trip to market yesterday with a similar shopping trip made 20 years ago, you will notice the change that has taken place. Twenty years ago you were hard put to buy oranges in the summer, spinach in the winter. Since then better transportation, preservation, and distribution methods have spread the perishable food calendar around the year for consumers even in markets remote from producers.

CHANCES are, however, that you select fruits and vegetables much the same way you did 20 years ago—by punching, smelling, snapping, or on the advice of the retailer's clerk. This sounds like blind buying compared with selecting meats, poultry, butter, canned fruits and vegetables on the basis of U. S. grades.

U. S. GRADES for fruits and vegetables, developed within the last 20 years, are designed primarily for use by the wholesale trade. Packers and dealers may or may not use the U. S. grades as they see fit, yet much of the wholesale trading is done on the basis of these grades. The economical buyer who makes purchases under the U. S. grades knows that if he buys fruits or vegetables of the

To reduce the chance of error in judgment and to promote the uniform interpretation of a grade throughout the country, models of fruits and vegetables are made by the Bureau of Agricultural Economics. These models reproduce the exact color, size, and imperfections allowable in the various grades by Department regulations. Artists are at work here on such color models.

U. S. No. 1 grade, or any other grade, his purchases will not be below a certain minimum quality. Markings for size and grade often appear on the shipping container. Thus few housewives, other than those who purchase in relatively large quantities—100-pound bags of potatoes, a crate of oranges, a box of apples—actually, buy these products by grades.

UNLIKE grades for meats or canned fruits and vegetables, grade labels for fresh fruits and vegetables can seldom be placed upon the retail unit. Marking each potato, each orange, or carrot with a U. S. grade might give work to half the population of the country, but would cost more than it was worth.

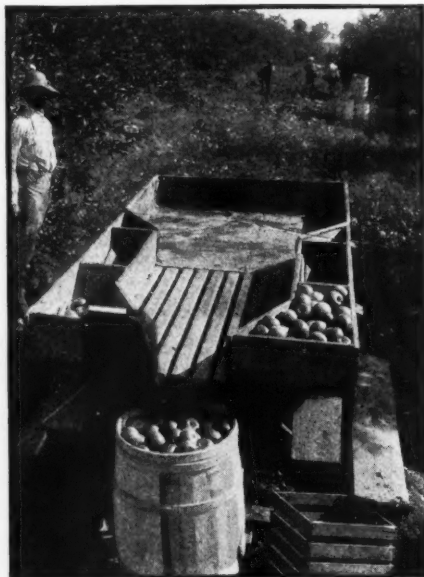


These peaches have already been classified by size and quality. The workers here are preparing the top or face layer for baskets of peaches that will soon be started on their way to consumer markets.

Perishability is another factor restricting the use of grades. Sudden injury, perhaps freezing, might reduce a fruit or vegetable from highest grade to no grade within a few hours.

CONSUMERS nevertheless can benefit by the use of U. S. grades for fruits and vegetables in the wholesale trade since they enable the retailer to obtain products of nearly uniform quality.

GRADING and inspecting fruits and vegetables are services supervised by the Bureau of Agricultural Economics to facilitate all stages of marketing from the grower to consumer. Grading means sorting fruits and vegetables as they come from the orchard or field into groups which differ from each other in quality. Inspecting involves an examination of fruit and vegetable shipments, either at the shipping point or receiving market, to make certain that the produce meets the requirements of a specified grade. Wax models demonstrate the defects permitted within the



Sorting tables are generally used when fruit is graded in orchards. The bottom of this table is slatted so that trash falls through, and inclined so that fruit as it is graded rolls to the lower end where it can be packed in barrels or baskets.

grades, and serve to promote a uniform use of the grade throughout the country.

OFFICES for grading and inspecting in 47 large cities are maintained throughout the country. Use of these services is optional, and inspections to certify grade are made only at the request of a financially-interested party—shippers, dealers, railroads. Fees charged for making each inspection—over 300,000 cars annually—including inspections made at shipping points, help to make this service nearly self-supporting.

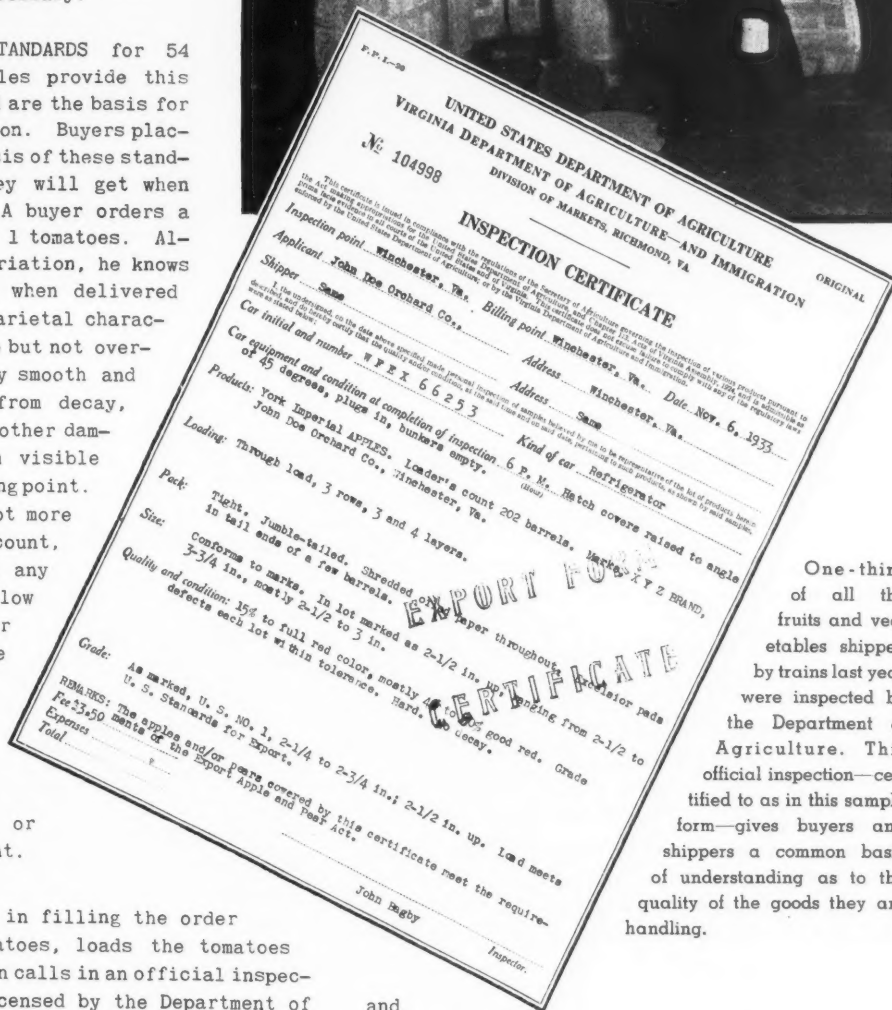
FRESH PRODUCE TRADE annually directs the movement of more than a million cars of fresh fruits and vegetables on their journey from producers to consumers. Speed is essential, for delayed delivery of so perishable commodities might well mean complete loss of shipment. Delays, due to disputes and misunderstandings over the terms of sale, must be settled quickly.

NEED OF a common language for use in trading, in settling disputes, and for reporting market prices gave rise to urgent requests in 1915 that the Government begin a grading and inspection service. The World War and the necessity of an economical distribution and utilization of food focused attention on this demand.

SHIPPERS—in pre-grading days—were at the mercy of buyers, who, for varied reasons, frequently rejected shipments on arrival, or asked for discounts. Rejections meant delay tying up railroad cars, allowing foodstuffs to spoil. A slump in the market, alleged lower quality than ordered, deterioration and decay in transit, were possible reasons. Shippers, perhaps 2,000 miles away,

ASSUME that the buyer was dissatisfied when the tomatoes arrived in the receiving market. Perhaps he thought they were overripe and soft

and  
would not  
sell to retailers as first-class tomatoes. Perhaps the market price for tomatoes had stepped down after he placed his order and that by rejecting this carlot, he could buy cheaper from another shipper. So he rejects the shipment. The seller then wires the inspector in the receiving market



One-third of all the fruits and vegetables shipped by trains last year were inspected by the Department of Agriculture. This official inspection—certified to as in this sample form—gives buyers and shippers a common basis of understanding as to the quality of the goods they are handling.



National Bureau of Standards apparatus for impact testing of crockery is another example of testing useful to consumers. Other services of the Bureau are described in the CONSUMERS' GUIDE for July 13, 1936.

## Consumer-Farmer Briefs

### from Washington

**C**ATTLE in 2,923 out of the 3,070 counties in the United States were practically free from cattle tuberculosis in August, according to a report from the Bureau of Animal Industry of the United States Department of Agriculture. These figures are important, for keeping cattle in good health means protecting the health of consumers.

ABOUT 23 million tuberculin tests were made on cattle during the last 6 months of 1935 and the first 6 months of 1936. The same period saw the virtual stamping out of cattle tuberculosis in 493 counties.

GERM of cattle tuberculosis was discovered in 1882. Eight years later the first tuberculin testing began. In 1926 scientists in the Department of Agriculture greatly improved testing methods.

SYSTEMATIC eradication of cattle tuberculosis began in 1917 on a basis of cooperation

with States and counties. The great accuracy of the test, and the constant help of cattle owners and State livestock officials, have contributed to the rapid progress of the tuberculosis-eradication campaign.

★

ONE American cow tells her master everything he ought to know about feeding her. This remarkable animal is part of a group of educational exhibits scheduled by the United States Department of Agriculture for the California State Fair at Sacramento.

PHONOGRAPH record, electric pickup, radio amplifier—these three combined give the cow a voice. To her owner she explains the relation between feed and pasture and profitable milk production. She makes it quite clear that she can give a profitable quantity of milk only when she has good materials from which to make it.



LITTLE rooms, representing the cow's bodily organs, contain mechanized devices showing what happens in the "Milk Factory" during the process of changing feed to milk.

★

CONSUMERS in most of the larger American cities can now buy eggs graded according to Government standards, under the supervision of licensed Government graders. Two common grades are U. S. Extras (same as U. S. Retail Grade A) and U. S. Standards (same as U. S. Retail Grade B).

LABELS on cartons of graded eggs always indicate the date of grading. Consumers should observe this date carefully. An egg graded "U. S. Standard" on January first might not deserve the same rating in February.

★

ONE old custom that many consumers are discarding is that of squeezing orange juice at night to serve in the morning. Even if it stands covered in the icebox, such orange juice suffers a considerable loss in vitamin value. The same goes for tomato juice from fresh or canned tomatoes. Exposure doesn't do either of these vitamin-rich juices any good. Squeezed orange juice loses 10 percent or more of its Vitamin C value over night. Tomato juice that stands for several days may have to take a 40 percent loss.

WORKERS at the Bureau of Home Economics went pretty thoroughly into the problems of orange and tomato juices. They conducted chemical analyses and feeding trials on four varieties of oranges from California and Florida, on the fresh pressed juice of tomatoes, and on juice from a brand of commercial canned tomatoes. Chief finding was that orange juice contains from two to three times as much Vitamin C as tomato juice. But in seasons when tomato prices are much lower than orange prices, tomatoes may equal or surpass oranges in the amount of Vitamin C protection per dollar they will furnish.

★

SEASON for meat canning is now at hand, and consumers will find useful information on canning a number of varieties, including chicken, beef, and pork, in a newly revised edition of the Bureau of Home Economics helps to home canners. "Home Canning of Fruits, Vegetables and Meats" is the title of Farmers' Bulletin No. 1762. So long as the supply lasts, the Department of Agriculture will send a copy of the booklet free to anyone who requests it.

AUTOGIROS now aid the U. S. Department of Agriculture in stopping the spread of plant diseases and insect pests. Observers, flying slowly a short distance above the tree tops, can readily spot either diseased trees or host plants of destructive insect pests. It would be very difficult—or even impossible—to run down these infections and infestations from the ground. Aerial scouting has now helped in controlling citrus canker infection, Dutch elm disease, and pink boll worm (a destructive insect pest of cotton). The autogiro can cover effectively many suspected areas in which ground crews could operate only under great handicaps.

★

MARKETING of livestock, poultry and eggs, potatoes, vegetables, and tobacco are among the subjects covered in a statistical report recently issued by the Connecticut Bureau of Markets at Hartford, Conn. This book, "The Marketing of Agricultural Products in Connecticut, 1935", shows that nearly \$16,000,000 worth of milk was produced in the State last year, nearly \$10,000,000 worth of chickens and eggs, \$5,000,000 worth of vegetable products, and \$1,500,000 of fruit products. The report further indicates that Connecticut "leads every State in average per acre value of all farm products." Last year's per acre value of Connecticut farm crops was \$57.17.

★

HINTS and suggestions on food problems are issued periodically by the Middlesex County Consumers' Council, in conjunction with the Massachusetts Department of Agriculture. A recent release tells about attractive box lunches for school children—how they become more nutritious and colorful when they contain fresh vegetables like cucumbers, tomatoes, and carrots. The report further states that appetizing salad sandwiches can be made with green beans, shell beans, cabbage, and spinach. For beginning or ending a lunch, apples, grapes, pears, and peaches are very tasty. Varying the fruits and vegetables from day to day lends welcome novelty to the noon-hour lunchbox.

★

NEW JERSEY has started a new consumer service—a monthly report on the retail costs of food in the State. Data on food costs will be collected regularly from 400 retail stores in and around Newark and Camden. The reports will give general summaries of price trends, and detailed prices on specified foods.

## ON AUTUMN MARKET LISTS

[Concluded from page 9]

potato. Still another shows in dark greenish spots, usually round but sometimes irregular. Dampness is a danger sign in sweetpotatoes, calling for inspection on counts of possible bad handling, freezing, or decay. Sweetpotatoes, like other yellow and orange foods, rank as "excellent" for Vitamin A, and they rate as "good" for both Vitamins B and C, and "fair" for iron besides.

CAULIFLOWER is known to the wise consumer by its "curd" or the flowerets that make up the head. It does not matter what size a head of cauliflower may be, but the "curd" must be white or creamy white, clean, heavy, firm, and compact with the flowers bunched snugly together. Spreading and separating flower clusters are signs of age among cauliflowers. Yellow leaves may mean age if the curd tells the same story, but if the curd looks young the leaves can be yellow from other causes. Speckles, spots, and bruises call for calculations as to waste. Cauliflowers rate as excellent for Vitamin C, good for Vitamin G, and fair for Vitamin B with mineral recommendations including an excellent for calcium and a good for iron.

PARSNIPS have decided friends and enemies among consumers, but not on the basis of food value, for among vitamins their one known contribution is a good supply of Vitamin B, along with a fair rating for iron and a good rating for calcium. Unusual among vegetables, they are at their best only after weathering a good frost. Small to medium are the preferred parsnip sizes, and they should be smooth, firm, and well-shaped so as to avoid the waste that goes with odd shapes and the softness that may mean mere pithy or fibrous roots and may mean decay. Other signs of decay are grey mold and watery soft rot.

## HOW CANS COMPARE

[Concluded from page 12]

eliminated. A very tricky pair, widely used in America, are No. 303 and No. 2. These cans look so much alike that from a distance it is hard for the consumer to tell them apart. Yet No. 303 is so much the smaller that it will fit snugly inside of No. 2. You have to open 5 cans of No. 303 to get the amount of food you could get in 4 cans of No. 2. A No. 303 can of string beans, bought for a cent less than a No. 2 can, still keeps

the price of string beans 15 to 20 percent higher per pound than it would be in the No. 2 can. This percentage increases when, as sometimes happens, both cans are sold at the same price. And not infrequently, the No. 303 can sells at an even higher price than the No. 2.

PRACTICAL ILLUSTRATION of these points came 3 weeks ago, when a Washington consumer went on a shopping trip for canned peas. Stepping into a corner grocery, she bought 3 different cans, each a well-known brand. One No. 2 can cost 15 cents; another No. 2 can cost 18 cents; the third, a No. 303, also cost 18 cents.

TAKING the cans to the laboratory of the Bureau of Agricultural Economics, the consumer asked that they be officially graded. Government graders then opened the cans and graded the peas for clearness of liquor, absence of defects, uniformity of size and color, tenderness and maturity, and flavor. They found slight differences in quality, but all 3 cans fell within the limits of grade "B". Data obtained by weighing the food in each can and by comparing the prices showed that peas in the 18-cent No. 303 can cost 50 percent more per pound than the peas in the 15-cent No. 2 can, though the quality was about the same. These are facts to remember on shopping trips.

WISE CONSUMERS who want to make a real selection of values for money spent no longer ask at the grocery for "large", "medium", or "small" sized cans. The pertinent question is "How large is large?" and "How small is small?" If you really want to know how much food is in a can, you have to read the label. Net weight in ounces appears on practically every can of food sold in America. If the can says so, you can be sure it contains 20 ounces of spinach, or 10½ ounces of vegetable soup. Otherwise the goods would be subject to seizure under the Federal Food and Drugs Act. The label will guide you better than a guess in revealing how much is in a can.

## QUALITY IN FRUITS AND VEGETABLES

[Continued from page 15]

to reinspect the tomatoes. The inspector repeats the process, using the same methods, the same standards, and issues another certificate. If the shipment met the standard, the buyer would have to accept shipment or stand the chance of being sued

by the shipper, or of having complaint filed against him for violation of the Perishable Agricultural Commodities Act and possibly losing his license. If the tomatoes graded No. 2 rather than No. 1 the seller would no doubt offer the tomatoes to the buyer at a discount.

INSPECTORS do not arbitrate disputes or make adjustments. They simply make an accurate report to be used by the applicant whenever dependable evidence of quality is necessary. The certificate of grade or condition made out by the inspector is acceptable evidence of grade in any United States court, and is the basis for the settlement of disputes and misunderstandings that may arise, as well as the basis for trade between buyers and sellers. The educational value of this grade certificate is also of importance to the producer since it makes him aware of the qualities in produce that are essential to bring him the greatest possible returns.

A WASHINGTON JOBBER recently bought 150 bags of U. S. No. 1 Irish Cobbler potatoes from a shipper in New Jersey, and on examining the delivery thought that the potatoes were below grade. Many appeared to be smaller than  $1\frac{1}{8}$  inches in diameter, the minimum size for U. S. No. 1's, and the jobber wanted to reject the shipment.

DISPUTES like this are common. An official fruit and vegetable inspector of the Department of Agriculture stepped in at the jobber's request, and quickly settled the matter. He inspected the potatoes by sample, taking 30 pounds from each of 10 sacks scattered throughout the truck, measuring each potato in the sample with a steel gage. Potatoes which dropped through a hole  $1\frac{1}{8}$  inches in diameter without forcing were too small to make the No. 1 grade and were set aside in one pile. In another pile he threw the diseased or injured potatoes.

THE INSPECTOR computed the percentage of undersized potatoes by weighing. Three percent were below the minimum size, but they met the standard because the law allows 5 percent to be under the  $1\frac{1}{8}$  inches minimum. The diseased and injured potatoes were weighed and found to average 2 percent of the sample. The tolerance for defects on U. S. No. 1 potatoes is 6 percent, so the potatoes met the grade in every respect. A certificate mailed to the jobber stated that the potatoes were U. S. No. 1, in good condition. The jobber had no

fair reason for rejecting the shipment. The incident was closed without undue delay with a total cost of \$2.50 to the jobber.

SETTING UP the standards for grading fruits and vegetables and for inspecting and certifying concerning grade is the job of one section in the Division of Fruits and Vegetables of the Bureau of Agricultural Economics. Standards are the yardsticks which define the grade and which establish the permanency of grades—meaning that a grade shall be of like quality from day to day, month to month, and year to year, or until a change in the standard is necessary. Making these standards to meet the needs of the trade involves continuous research and interviews.

TERMINOLOGY used in fruit and vegetable standards is numerical with the exception of a certain premium grade provided for products of exceptional quality, designated as U. S. Fancy.

METHODS of grading differ, depending among other things upon the size of the product. Apples furnish an illustration of how fruit is sized and graded. In large commercial packing houses apples are sized by machinery. Where sized by hand, grading and sizing constitute one operation. Sizing can easily be done by machinery but only the human eye can pick out defects. Graders know the requirements of the grades being packed, and grading is carefully supervised.

GRADING or sorting tables are used almost exclusively when fruit is graded in orchards and to some extent in packing houses. The bottom of this table is slatted so that trash falls through, and inclined so that fruit as it is graded rolls to the lower end where it can be packed in boxes or baskets. Graders must sort out both defective and undersized fruit, and the actual sorting takes place as the fruit is pushed or rolled along to the end of the table. Since shippers do the grading and stamping, some regulation to prevent flagrant misuse of the grades is necessary. Fruits and vegetables moving in interstate commerce are subject to possible inspection under the Food and Drugs Act.

COPIES of the standard grades are furnished free on request to the Department of Agriculture. Studying these grades gives you an idea of quality as defined by experts, and the defects considered serious.

## Our Point of View

**THE CONSUMERS' GUIDE** believes that consumption is the end and purpose of production.

To that end the **CONSUMERS' GUIDE** emphasizes the consumer's right to full and correct information on prices, quality of commodities, and on costs and efficiency of distribution. It aims to aid consumers in making wise and economical purchases by reporting changes in prices and costs of food and farm commodities. It relates these changes to developments in the agricultural and general programs of national recovery. It reports on cooperative efforts which are being made by individuals and groups of consumers to obtain the greatest possible value for their expenditures.

The producer of raw materials—the farmer—is dependent upon the consuming power of the people. Likewise, the consumer depends upon the sustained producing power of agriculture. The common interests of consumers and of agriculture far outweigh diversity of interests.

While the **CONSUMERS' GUIDE** makes public official data of the Departments of Agriculture, Labor, and Commerce, the point of view expressed in its pages does not necessarily reflect official policy but is a presentation of governmental and nongovernmental measures looking toward the advancement of consumers' interests.

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